

**22.2.3.1.4 Short-Term Effectiveness**—The evaluation of the no action alternative incorporates the assumption that sites would be immediately available to the general public. An institutional control period is not considered. Because the no action alternative does not include mitigative measures to address risks from UXO to residential receptors, and immediate access is postulated, short-term risks may be high. Risk depends on the quantity of UXO within the UXO areas, but this has not been estimated. It is assumed the short-term effectiveness for the no action alternative is low.

**22.2.3.1.5 Implementability**—No specialized equipment, personnel, or services are required to implement the no action alternative. This alternative can be implemented immediately without additional risks to the community, workers, or the environment.

**22.2.3.1.6 Cost**—The estimated costs, \$2.4 million, for the no action alternative for WAG 10 UXO areas are summarized in Table 21-3 and presented in detail in Appendix I. Postclosure cost estimates include the full duration of the 100-year period of monitoring.

**22.2.3.2 Alternative 2: Limited Action.** The limited action alternative would include access restrictions, deed restrictions, and signage. The existing fencing at the INEEL would be maintained, extended, or relocated if necessary. Construction activities would be restricted and special training requirements would be established for personnel-allowed access to areas expected to contain UXO.

**22.2.3.2.1 Overall Protection of Human Health and the Environment**—Under the limited action alternative, exposure of the public to potential UXO would be prevented by institutional controls. Training, limitations on activities where UXO could be present, and access limitations would protect on-Site workers. Institutional controls are typically used as readily available and proven methods of addressing risk when UXO detection and removal cannot be conducted in a safe, efficient, or cost-effective manner. The limited action alternative would be protective of human health and the environment and satisfy the RAOs.

**22.2.3.2.2 Compliance with ARARs and TBCs**—The evaluation of the no action alternative for compliance with ARARs and with TBCs is presented in Table 22-7. The limited action alternative would meet ARARs and TBC.

**22.2.3.2.3 Reduction of Toxicity, Mobility, or Volume Through Treatment**—No treatment is associated with this alternative.

**22.2.3.2.4 Short-Term Effectiveness**—The evaluation of the limited action alternative incorporates institutional controls and would restrict access and activities at the site. Although these management options provide a means for reducing immediate risk by controlling potential encounters with UXO, they do not eliminate the risk because the UXO remains in place. Therefore, the short-term effectiveness for the limited action alternative is moderate.

**22.2.3.2.5 Implementability**—No specialized equipment or personnel are required to implement the limited action alternative. Maintenance and periodic replacement of fencing and signs would be required, but this is consistent with routine maintenance operations. This alternative can be implemented immediately without additional risks to the community, workers, or the environment.

**22.2.3.2.6 Cost**—The estimated costs, \$5.2 million, for the limited action alternative for the UXO areas are summarized in Table 21-3 and presented in detail in Appendix I.

**22.2.3.3 Alternative 3: UXO Detection, Removal, and Institutional Controls.** Alternative 3 would involve geophysical surveys, removal and disposition of suspect UXO, and institutional controls. Anomalies detected from the surveys would be investigated and removed if suspected of being UXO. Any items removed that could be UXO would be detonated on Site at the Mass Detonation Area unless it is determined that it would not be safe to transport, in which case the UXO would be detonated at the site where it was detected. Other non-UXO items recovered, such as inert munitions and shrapnel, would be recycled or disposed at the CFA landfill.

Because geophysical investigations are seldom 100% effective, periodic surveys may have to be conducted and institutional controls would have to be established and maintained. For purposes of cost estimation, we assumed one UXO survey would be conducted. This survey would be to identify potential UXO areas beyond the known UXO sites. We also assumed that a helicopter boom-mounted magnetic detection system would be used to perform the UXO survey. The need for additional surveys would be assessed during the 5-year reviews.

Access to the INEEL is currently restricted for purposes of security and public safety. The portion of the UXO area that lies within the INEEL boundary, Site-wide access restrictions would limit accessibility for at least 100 years. Installation of additional fences or relocation of the existing fences also may be necessary. Other access control measures may include warning signs, assessing trespassing fines, and establishing training requirements for persons allowed access. Land-use restrictions may be specified if government control of the INEEL is not maintained throughout the institutional control period.

**22.2.3.3.1 Overall Protection of Human Health and the Environment**—Alternative 3 provides effective, long-term protection of human health and the environment. The removal of ordnance from WAG 10 UXO areas of concern would minimize potential long-term human health and environmental concerns associated with future exposure to UXO. Detonation of ordnance will effectively destroy the material and reduce risk. Institutional controls would still be maintained to limit access and future activity at the sites because there is the potential for buried, undetected UXO to reach the surface from frost heaves and erosion, thereby posing an unacceptable risk.

Short-term protection of human health is less effective, because workers would be exposed to safety hazards from potential UXO during excavation. However, all potential risks during implementation could be controlled through administrative and engineering controls.

**22.2.3.3.2 Compliance with ARARs**—The evaluation of Alternative 3 for compliance with ARARs and TBCs is presented in Table 22-8. Removal and detonation of UXO complies with the Military Munitions Rule and the Open Burning, Wastes Explosives provisions of RCRA. Compliance

**Table 22-7.** Evaluation of compliance with ARARs and TBCs for the WAG 10 UXO Areas, Alternative 2: Limited Action.

ARAR or TBC	Type	Citation	Met Evaluation <sup>a</sup>
Protect members of the public from exposure to hazards from property contaminated with munitions, explosives or chemical agents	TBC	DoD Standard 6055.9, Chapter 12 “Real Property Contaminated with Ammunition, Explosives, or Chemical Agents”	Yes

a. A yes in the Met Evaluation column indicates that the alternative meets the ARAR or TBC.

with the emission control ARARs would be met by modeling emissions from intended detonations and limiting detonations to ensure compliance with standards. The DOD Standard 6055.9, Chapter 12 “Real Property Contaminated with Ammunition, Explosives, or Chemical Agents,” would be met by implementing and enforcing applicable provisions of the standard. All areas affected by WAG 10 remedial activities would be evaluated for cultural resource concerns before disturbance. Activities in sensitive areas would be modified, as required, to meet ARARs. Therefore, the alternative is capable of complying with ARARs and TBCs.

**22.2.3.3.3 Long-Term Effectiveness**—Alternative 3 would achieve long-term protection because all detected UXO would be removed from WAG 10 UXO areas of concern and detonated. Institutional controls would be maintained at the site because there is the potential for any buried, undetected UXO to eventually reach the surface due to frost heaves and erosion. Therefore, long-term effectiveness and permanence for Alternative 3 is classified as high.

**22.2.3.3.4 Reduction of Toxicity, Mobility, or Volume Through Treatment**—Removal and detonation of UXO will result in some reduction of volume of these items. However, reduction of toxicity and mobility are not applicable to UXO remediation.

**22.2.3.3.5 Short-Term Effectiveness**—The exposure risks to workers during excavation and removal of UXO at WAG 10 UXO areas could be significant. However, use of appropriate equipment and personal protective equipment have been demonstrated to effectively mitigate risks in previous INEEL removal actions. Short-term effectiveness is, therefore, considered moderate.

**Table 22-8.** Evaluation of compliance with ARARs and TBCs for the WAG 10 UXO Areas: Alternative 3, Survey and Removal.

ARAR or TBC	Type	Citation	Met Evaluation <sup>a</sup>
Military Munitions Rule	Action	40 Code of Federal Regulations 266, Subpart M	Yes
Rules for Control of Air Pollution in Idaho	Action	IDAPA 58.01.01.650-.651, Fugitive Dust	Yes
Rules and Standards for Hazardous Waste in Idaho	Action	IDAPA 58.01.05.010.006, .008, and .0011, which incorporates RCRA by reference	Yes
Resource Conservation and Recovery Act	Action	40 Code of Federal Regulations 262.11, Hazardous Waste Determination	Yes
Rules and Standards for Hazardous Waste in Idaho	Action	IDAPA .01.05.010.009 (40 CFR 265.382)	Yes
Native American Graves Protection and Repatriation Act	Location	25 USC 32	Yes
National Historic Preservation Act	Location	36 Code of Federal Regulations 800	Yes
Real Property Contaminated with Munition, Explosives, or Chemical Agents	TBC	DoD Standard 6055.9, Chapter 12	Yes

a. A yes in the Met Evaluation column indicates that the alternative meets the ARAR or TBC.

In addition to risks caused by exposure to contaminants, risks associated with the physical construction hazards such as vehicle accidents or personal injury can be minimized by implementation of appropriate health and safety measures for earth-moving construction activities.

Environmental impacts resulting from Alternative 3 would depend on the methods allowed for removal of UXO and the extent of removal required. However, the impacts of these activities would be temporary and the sites would be restored to match the surrounding landscape at the completion of the project. Sensitive cultural resources exist at WAG 10 UXO areas of concern. Surveys would be conducted at all sites, and Native American consultation would be conducted before any disturbance. In the event that cultural resources are discovered, an assessment will be made of the effects of the remedial action on the resource, and options to mitigate adverse impacts will be determined and evaluated. Appropriate actions will be taken to comply with ARARs that protect cultural resources.

The RAOs would be achieved by Alternative 3 by UXO removal, detonation, and implementation of effective institutional controls. To satisfy the RAOs during implementation of these alternatives, exposure to UXO would have to be mitigated to acceptable risks through administrative and engineering controls.

The survey and removal of detected UXO at all WAG 10 UXO areas of concern could be achieved in 36 months. The estimated time to prepare environmental assessments, safety analysis, and design phases, as well as performing the removal, is 18 to 24 months.

**22.2.3.3.6 Implementability**—Alternative 3 is easily implementable. Equipment for UXO detection and removal are currently available.

**Cost**—The estimated cost for the UXO survey, removal, and detonation alternative is high. Cost estimates are based on the use and operation of a helicopter mounted array of magnetometers to detect potential UXO and standard military practices to detonate UXO and recover metal fragments. Cost allowances are used to account for air pollution controls, monitoring equipment and analyses, waste characterization, packaging, and continuing institutional controls. The estimated cost for Alternative 3 is \$16.5 million, which is summarized in Table 21-3 and presented in detail in Appendix I.

## 22.3 Comparative Analysis

The comparative analysis of the remedial action alternatives is a measurement of the relative performance of alternatives against each evaluation criterion. The comparison identifies the relative advantages and disadvantages associated with each alternative. The comparative analysis does not identify a preferred alternative, but provides sufficient information to enable this selection by the appropriate decision makers (i.e., DOE-ID, EPA, and IDEQ). The following sections present the alternative comparisons relative to each evaluation criterion for the TNT/RDX contaminated soils sites, the STF-02 Gun Range, and the UXO areas. Tables 22-9, 22-10, and 22-11 summarize how each alternative satisfies the RAOs identified in Section 19.3. Tables 22-12, 22-13, and 22-14 provide a narrative description of the relative performance of each alternative for each evaluation criterion. Table 22-15 shows the comparative rating of all remedial alternatives relative to the CERCLA evaluation criteria.

For the TNT/RDX contaminated soil sites, the following alternatives were included in the detailed analysis and are compared in the discussions that follow:

- Alternative 1—No Action
- Alternative 3a—Removal, Treatment of TNT/RDX Fragments, and Disposal of Soil on the INEEL

- Alternative 3b—Removal, Treatment of TNT/RDX Fragments, and Disposal of Soil off the INEEL
- Alternative 4a—Removal, Incineration, and Disposal off the INEEL
- Alternative 4b—Removal, Composting, and Disposition on the INEEL.

The alternatives retained for detailed analysis for the STF-02 Gun Range are compared in the discussions below:

- Alternative 1—No Action
- Alternative 3a—Removal, Ex Situ Stabilization, and Disposal
- Alternative 3b—Removal, Soil Washing, and Disposition on the INEEL.

The alternatives retained for detailed analysis for the UXO areas are compared in the discussions below:

- Alternative 1—No Action
- Alternative 2—Limited Action
- Alternative 3—UXO Detection, Removal, and Institutional Controls.

### **22.3.1 Overall Protection of Human Health and the Environment**

The primary measure of this criterion is the ability of an alternative to achieve RAOs for WAG 10 sites. Alternative 1, no action, would not prevent exposures resulting in risks greater than  $1E-04$  or HIs greater than 1.0 for the TNT/RDX soil sites. The RAOs of preventing direct exposure to lead and preventing ingestion of lead-contaminated groundwater would not be met under Alternative 1 for STF-02 Gun Range soils. There would be unacceptable risk to the public from exposure to potential UXO under Alternative 1 for the UXO areas.

For the TNT/RDX contaminated soil sites, Alternatives 4a and 4b (excavation, off-Site incineration and disposal, and excavation, composting and on-Site disposition) would provide effective long-term protection of human health and the environment. This is because all contamination above risk-based levels would be removed and destroyed through treatment. Alternative 4a, which includes incineration, is considered effective in destroying TNT and RDX contamination. Alternative 3a and 3b (excavation and disposal on- and off-Site) would provide effective long-term protection of human health and the environment because all contamination above risk-based levels would be removed from WAG 10 sites and disposed in secure landfills.

For the STF-02 Gun Range, Alternative 3a (excavation, stabilization, and disposal) would provide the effective long-term protection of human health and the environment, because the contaminated media would be removed, treated, and disposed in a secure landfill. Alternative 3b (excavation, soil washing, and disposition at the site) would also be protective within WAG 10.

For the UXO areas, Alternative 3 (UXO detection, removal, and institutional controls) would provide effective long-term protection of human health and the environment because any UXO detected from the survey effort would be removed and detonated and long-term institutional controls would be

**Table 22-9.** Comparison of alternatives for TNT/RDX contaminated soils with remedial action objectives.

Criteria	Alternative 1 No action	Alternative 3a Removal, Treatment of TNT/RDX Fragments, and Disposal of Soil on the INEEL	Alternative 3b Removal, Treatment of TNT/RDX Fragments, and Disposal of Soil off the INEEL	Alternative 4a Removal, Incineration and Disposal off the INEEL	Alternative 4b Removal, Composting, and Disposition on the INEEL
<i><u>Protection of human health</u></i>					
Inhibit exposure to soil	No exposure prevention provided.	Minimizes potential exposure by removing detected contamination from site	Minimizes potential exposure by removing detected contamination from site	Minimizes potential exposure by removing detected contamination from site	Minimizes potential exposure by removing detected contamination from site
Inhibit ingestion of soil	No exposure prevention provided.	Minimizes potential exposure by removing detected contamination from site	Minimizes potential exposure by removing detected contamination from site	Minimizes potential exposure by removing detected contamination from site	Minimizes potential exposure by removing detected contamination from site
Inhibit ingestion of home-grown produce	No exposure prevention provided.	Minimizes potential exposure by removing detected contamination from site	Minimizes potential exposure by removing detected contamination from site	Minimizes potential exposure by removing detected contamination from site	Minimizes potential exposure by removing detected contamination from site
Inhibit ingestion of groundwater	No exposure prevention provided.	Minimizes potential exposure by removing detected contamination from site	Minimizes potential exposure by removing detected contamination from site	Minimizes potential exposure by removing detected contamination from site	Minimizes potential exposure by removing detected contamination from site
<i><u>Protection of environment</u></i>					
Inhibit exposures to ecological receptors	No exposure prevention provided.	Minimizes potential exposure by removing detected contamination from site	Minimizes potential exposure by removing detected contamination from site	Minimizes potential exposure by removing detected contamination from site	Minimizes potential exposure by removing detected contamination from site

**Table 22-10.** Comparison of alternatives for the STF-02 Gun Range with remedial action objectives.

Criteria	Alternative 1 No action	Alternative 3a Removal, Ex Situ Stabilization, and Disposal	Alternative 3b Removal, Soil Washing, and Return to Excavation
<i><u>Protection of human health</u></i>			
Inhibit exposure to soil > 400 ppm lead	No exposure prevention provided.	Eliminates potential exposure by removing contamination from site.	Eliminates potential exposure by removing contamination from site.
Inhibit ingestion of groundwater	No exposure prevention provided.	Eliminates potential exposure by removing contamination from site.	Eliminates potential exposure by removing contamination from site.
<i><u>Protection of environment</u></i>			
Inhibit exposures to ecological receptors	No exposure prevention provided.	Eliminates potential exposure by removing contamination from site.	Eliminates potential exposure by removing contamination from site.

**Table 22-11.** Comparison of alternatives for the WAG 10 UXO Areas with remedial action objectives.

Criteria	Alternative 1 No action	Alternative 2 Limited Action	Alternative 3 Detection and Removal
Prevent inadvertent contact with UXO	No prevention of contact provided.	Minimizes potential contact by limiting site access.	Minimizes potential contact by removing all detected UXO and limiting site access.

**Table 22-12.** Detailed analysis summary for WAG 10 TNT/RDX contaminated soil sites.

Criteria	Alternative 1 No action	Alternative 3a Removal, Treatment of TNT/RDX Fragments, and Disposal of Soil on the INEEL	Alternative 3b Removal, Treatment of TNT/RDX Fragments, and Disposal of Soil off the INEEL	Alternative 4a Removal, Incineration, and Disposal off the INEEL	Alternative 4b Removal, Composting, and Disposition on the INEEL
<u>Overall Protection of human health and the environment</u>					
Human health protection	No reduction in risk.	Minimizes potential exposure to contaminated soil by removing detected contamination from the site.	Minimizes potential exposure to contaminated soil by removing detected contamination from the site.	Minimizes potential exposure to contaminated soil by removing detected contamination from the site.	Minimizes potential exposure to contaminated soil by removing detected contamination from the site.
Environmental protection	Allows continued ecological exposures.	Minimizes potential exposure to contaminated soil by removing detected contamination from the site.	Minimizes potential exposure to contaminated soil by removing detected contamination from the site.	Minimizes potential exposure to contaminated soil by removing detected contamination from the site.	Minimizes potential exposure to contaminated soil by removing detected contamination from the site.
<u>Compliance with ARARs</u>					
<b>Chemical Specific</b>					
Idaho Groundwater Quality Standards—IDAPA 58.01.11.200	Would not meet ARAR.	Will meet ARAR by removing contamination and monitoring.	Will meet ARAR by removing contamination and monitoring.	Will meet ARAR by removing contamination and monitoring.	Will meet ARAR by removing contamination and monitoring.
<b>Action Specific</b>					
Military Munitions Rule – 40 Code of Federal Regulations 266, Subpart M	Not applicable	Would meet ARAR.	Would meet ARAR.	Would meet ARAR.	Would meet ARAR.
Idaho Fugitive Dust Emissions – IDAPA 58.01.01.650 et seq.	Not applicable	Would meet ARAR.	Would meet ARAR.	Would meet ARAR.	Would meet ARAR.



**Table 22-12.** (continued).

Criteria	Alternative 1 No action	Alternative 3a Removal, Treatment of TNT/RDX Fragments, and Disposal of Soil on the INEEL	Alternative 3b Removal, Treatment of TNT/RDX Fragments, and Disposal of Soil off the INEEL	Alternative 4a Removal, Incineration, and Disposal off the INEEL	Alternative 4b Removal, Composting, and Disposition on the INEEL
Rules and Standards for Hazardous Waste in Idaho – IDAPA 57.01.05.010.006, .008, and .011	Not applicable	Would meet ARAR.	Would meet ARAR.	Would meet ARAR.	Would meet ARAR.
Rules and Standards for Hazardous Waste in Idaho—IDAPA 58.01.05.009	Not applicable	Would meet ARAR.	Would meet ARAR.	Would meet ARAR.	Would meet ARAR.
<b>Location Specific</b>					
Native American Graves Protection and Repatriation Act—25 USC 32	Would meet ARAR	Would meet ARAR through surveys and assessments and actions deemed necessary.	Would meet ARAR through surveys and assessments and actions deemed necessary.	Would meet ARAR through surveys and assessments and actions deemed necessary.	Would meet ARAR through surveys and assessments and actions deemed necessary.
National Historic Preservation Act—36 Code of Federal Regulation 800	Would meet ARAR	Would meet ARAR through surveys and assessments and actions deemed necessary.	Would meet ARAR through surveys and assessments and actions deemed necessary.	Would meet ARAR through surveys and assessments and actions deemed necessary.	Would meet ARAR through surveys and assessments and actions deemed necessary.
<b>TBCs</b>					
Real Property Contaminated with Munition, Explosives, or Chemical Agents – DoD Standard 60559, Chapter 12	Would not meet TBC because no controls would be implemented.	Would meet TBC through removal of contamination and UXO institutional controls.	Would meet TBC through removal of contamination and UXO institutional controls.	Would meet TBC through removal of contamination and UXO institutional controls.	Would meet TBC through removal of contamination and UXO institutional controls.
<b><u>Long-term effectiveness and permanence</u></b>					
Magnitude of residual risk	No change from existing risk.	No detected contamination would remain at the sites	No detected contamination would remain at the sites	No detected contamination would remain at the sites	No detected contamination would remain at the sites

**Table 22-12. (continued).**

Criteria	Alternative 1 No action	Alternative 3a Removal, Treatment of TNT/RDX Fragments, and Disposal of Soil on the INEEL	Alternative 3b Removal, Treatment of TNT/RDX Fragments, and Disposal of Soil off the INEEL	Alternative 4a Removal, Incineration, and Disposal off the INEEL	Alternative 4b Removal, Composting, and Disposition on the INEEL
Adequacy and reliability of controls	No control and, therefore, no reliability.	Disposal facility is assumed to provide adequate and reliable control over soil disposed of for the period of institutional controls.	Disposal facility is assumed to provide adequate and reliable control over soil disposed of for the period of institutional controls.	Treatment will destroy all hazardous contaminants and the disposal facility is assumed to provide adequate and reliable control of the treated soil.	Treatment will destroy the TNT and RDX contamination in the soil., which will be verified through testing.
<i><u>Reduction of toxicity, mobility, or volume through treatment</u></i>					
Treatment process used	Not applicable	Not applicable	Not applicable	Incineration	Composting
Amount destroyed or treated	Not applicable	Not applicable	Not applicable	Approximately 100%	Approximately 90%
Reduction of toxicity, mobility, or volume	Not applicable	Not applicable	Not applicable	100% reduction in toxicity, 100% reduction in mobility, 20% reduction in volume	90% reduction in toxicity, 90% reduction in mobility, 300% increase in volume
Irreversible treatment	Not applicable	Not applicable	Not applicable	Not reversible, and affords long-term stability	Not reversible, and affords long-term stability
Type and quantity of residuals remaining after treatment	Not applicable	Not applicable	Not applicable	Detected contamination would not remain at the site. Incinerator residuals would remain after treatment of the soil.	Detected contamination would not remain at the site. The compost after treatment would be an organically enriched soil.
Statutory preference for treatment	Not applicable	Does not meet preference	Does not meet preference	Meets preference	Meets preference
<i><u>Short-term effectiveness</u></i>					
Community protection	Increase in potential risks to the public.	No increase in potential risks to the public.	Slight increase in potential risks to the public during off-Site transportation.	Slight increase in potential risks to the public during off-Site transportation.	No increase in potential risks to the public.
Worker protection	Increase in potential risk to worker	Workers protected by administrative and engineering controls.	Workers protected by administrative and engineering controls.	Workers protected by administrative and engineering controls.	Workers protected by administrative and engineering controls.

**Table 22-12.** (continued).

Criteria	Alternative 1 No action	Alternative 3a Removal, Treatment of TNT/RDX Fragments, and Disposal of Soil on the INEEL	Alternative 3b Removal, Treatment of TNT/RDX Fragments, and Disposal of Soil off the INEEL	Alternative 4a Removal, Incineration, and Disposal off the INEEL	Alternative 4b Removal, Composting, and Disposition on the INEEL
Environmental impacts	No change from existing conditions.	Limited to disturbances from excavation. The use of dust suppressants would limit the potential for airborne contamination in the form of fugitive dust.	Limited to disturbances from excavation. The use of dust suppressants would limit the potential for airborne contamination in the form of fugitive dust.	Limited to disturbances from excavation. The use of dust suppressants would limit the potential for airborne contamination in the form of fugitive dust.	Limited to disturbances from excavation. The use of dust suppressants would limit the potential for airborne contamination in the form of fugitive dust.
Time until action is complete	Not applicable	Approximately 18 to 24 months	Approximately 18 to 24 months	Approximately 18 to 24 months	Approximately 18 to 24 months
<i>Implementability</i>					
Ability to construct and operate	No construction or operation implemented.	Easy, involves available excavation and transportation technology.	Easy; involves available excavation and transportation technology.	Easy; involves available excavation, treatment, and transportation technology.	Easy; involves available excavation, transportation, and composting technology.
Ease of implementing additional action if necessary	May require repeat of feasibility study and record of decision process.	Easy; any undetected contamination that may remain can be removed and disposed in the future.	Easy; any undetected contamination that may remain can be removed and disposed in the future.	Easy; any undetected contamination that may remain can be removed, treated, and disposed in the future.	Easy; any undetected contamination that may remain can be removed, treated, and disposed in the future.
Ability to monitor effectiveness	Monitoring of conditions is readily implemented.	The effectiveness in removing all detected contaminated materials associated with site is easily monitored	The effectiveness in removing all detected contaminated materials associated with site is easily monitored.	The effectiveness in removing all detected contaminated materials associated with site is easily monitored.	The effectiveness in removing all detected contaminated materials associated with site is easily monitored
Ability to obtain approvals and coordinate with regulatory agencies	No approvals required.	No difficulties identified.	No difficulties identified.	No difficulties identified.	No difficulties identified.
Availability of services and capacity	None required.	Services available on-Site and through subcontractor.	Services available either on-Site or through subcontractor. Disposal capability is assumed to exist at the INEEL.	Services available on-Site and through subcontractor.	Services available on-Site and through subcontractor.

**Table 22-12.** (continued).

Criteria	Alternative 1 No action	Alternative 3a Removal, Treatment of TNT/RDX Fragments, and Disposal of Soil on the INEEL	Alternative 3b Removal, Treatment of TNT/RDX Fragments, and Disposal of Soil off the INEEL	Alternative 4a Removal, Incineration, and Disposal off the INEEL	Alternative 4b Removal, Composting, and Disposition on the INEEL
Availability of equipment, specialists, and materials	None required.	Equipment and materials are readily available at the INEEL or within surrounding communities.	Equipment and materials are readily available at the INEEL or within the surrounding community.	Equipment and materials are readily available at the INEEL or within the surrounding community.	Equipment and materials are readily available at the INEEL or within surrounding communities.
Availability of technology	None required.	Readily available at the INEEL.	Readily available at the INEEL.	Readily available at the INEEL and commercially.	Readily available at the INEEL.
<u>Cost (present worth)</u>					
(See Table 21-1 and Appendix I.)	\$3.5 million	\$4.3 million	\$4.4 million	\$5.2 million	\$ 5.1 Million

**Table 22-13.** Detailed analysis summary for the STF-02 Gun Range.

Criteria	Alternative 1 No Action	Alternative 3a Removal, Ex Situ Stabilization, and Disposal	Alternative 3b Removal, Soil Washing, and Disposition on the INEEL
<u><i>Overall protection of human health and the environment</i></u>			
Human health protection	No reduction in risk.	Eliminates potential exposure to waste by removing contamination from the site.	Eliminates potential exposure by removing contamination from the site.
Environmental protection	Allows continued ecological exposures.	Eliminates potential ecological exposure to waste by removing contamination from the site.	Eliminates potential ecological exposure to waste by removing contamination from the site.
<u><i>Compliance with ARARs</i></u>			
<b>Chemical-specific</b>			
Idaho Groundwater Quality Standards – IDAPA 58.01.11.200	Would not meet ARAR.	Would meet ARAR.	Would meet ARAR.
<b>Action-Specific</b>			
Rules and Standards for Hazardous Waste in Idaho– IDAPA 58.01.05.010.006, .008, and .011	Not applicable.	Would meet ARAR.	Would meet ARAR.
Requirements for Recyclable Materials – 40 Code of Federal Regulation 261.6	Not applicable	Would meet ARAR.	Would meet ARAR.
Hazardous Waste Determination – 40 Code of Federal Regulation 262.11	Not applicable	Would meet ARAR.	Would meet ARAR.
Standards for Owners and Operators of Hazardous Waste Treatment, Storage, and Disposal Facilities – 40 Code of Federal Regulation 264	Not applicable	Would meet ARAR.	Would meet ARAR.
Idaho Fugitive Dust Emissions—IDAPA 58.01.01.650 through .651	Not applicable	Would meet ARAR through use of engineering controls.	Would meet ARAR through use of engineering controls.
Rules for Control of Air Pollution in Idaho—IDAPA 58.01.01.161, IDAPA 58.01.01.500.2, and IDAPA 58.01.01.585 through .586:	Not applicable	Would meet ARAR through use of engineering controls.	Would meet ARAR through use of engineering controls.
NESHAPS—40 Code of Federal Regulation 63.543 - .545	Not applicable	Would meet ARAR through use of engineering controls.	Would meet ARAR through use of engineering controls.

**Table 22-13.** (continued).

Criteria		Alternative 1 No Action	Alternative 3a Removal, Ex Situ Stabilization, and Disposal	Alternative 3b Removal, Soil Washing, and Disposition on the INEEL
<b>Location-specific</b>				
Native American Graves Protection and Repatriation Act—25 USC 32	Not applicable		Would meet ARAR through surveys and assessments and actions deemed necessary.	Would meet ARAR through surveys and assessments and actions deemed necessary.
National Historic Preservation Act—36 Code of Federal Regulation 800	Not applicable		Would meet ARAR through surveys and assessments and actions deemed necessary.	Would meet ARAR through surveys and assessments and actions deemed necessary.
<u>Long-term effectiveness and permanence</u>				
Magnitude of residual risk	No change from existing risk.		No residual risk would remain at site.	No residual risk would remain at site
Adequacy and reliability of controls	No control and, therefore, no reliability.		Disposal facilities for treated waste, contaminated soils and debris are assumed to provide adequate and reliable control for the period of institutional control. Stabilized waste form estimated to provide reliable control over contamination in waste for at least 1000 years	Soil washing is expected to remove at least 90% of lead contamination from the soil. The secondary waste can be effectively treated to provide reliable controls for at least 1000 years.
<u>Reduction of toxicity, mobility, or volume through treatment</u>				
Treatment process used	Not applicable		Stabilization	Soil washing
Amount destroyed or treated	Not applicable		Approximately 100%	Approximately 90%
Reduction of toxicity, mobility, or volume	Not applicable		30 –50% volume reduction, 95% mobility reduction, and 0% toxicity reduction.	20% volume increase, >90% mobility reduction, 0% toxicity reduction
Irreversible treatment	Not applicable		Not reversible, and affords long-term stability.	Not reversible, and affords long-term stability
Type and quantity of residuals remaining after treatment	Not applicable		No waste would be left at the site. Soil would be stabilized and railroad ties would be encapsulated.	No waste would be left at the site. Soils would be returned to the site after treatment. The secondary waste from soil washing would be treated and disposed, most likely by stabilization. The railroad ties would be encapsulated.
Statutory preference for treatment	Not applicable		Meets preference.	Meets preference.
<u>Short-term effectiveness</u>				
Community protection	No increase in potential risks to the public.		No increase in potential risks to the public during transportation.	No increase in potential risks to the public.

**Table 22-13.** (continued).

Criteria	Alternative 1 No Action	Alternative 3a Removal, Ex Situ Stabilization, and Disposal	Alternative 3b Removal, Soil Washing, and Disposition on the INEEL
Worker protection	Not applicable	Workers protected by engineering and administrative controls.	Workers would be exposed to acids and hazardous secondary waste, but would be protected by engineering and administrative controls.
Environmental impacts	No change from existing conditions.	Limited to disturbances from vehicle and material transport activities associated with excavation of the soils and debris.	Limited to disturbances from vehicle and material transport activities associated with excavation of the soils and debris.
Time until action is complete	Not applicable	Approximately 18 to 24 months	Approximately 18 to 24 months
<u>Implementability</u>			
Ability to construct and operate	No construction or operation.	Easy, involves available excavation , transportation, and stabilization technology	Easy, involves available excavation, transportation and treatment technology.
Ease of implementing additional action if necessary	May require repeat of feasibility study and record of decision process.	Easy, would only involve removal and treatment of additional soil.	Easy, would only involve removal and treatment of additional soil.
Ability to monitor effectiveness	Monitoring of conditions is readily implemented.	The effectiveness in stabilizing all contaminants is easily monitored.	Sampling to verify treatment performance is easily performed.
Ability to obtain approvals and coordinate with regulatory agencies	No approvals required.	No difficulties identified.	No difficulties identified.
Availability of services and capacity	None required.	Services available on-Site or through subcontractor.	Services available on-Site or through subcontractor.
Availability of equipment, specialists, and materials	None required.	Equipment and materials are available either on-Site, through subcontractors, or will be purchased.	Equipment and materials are available either on-Site, through subcontractors, or will be purchased.
Availability of technology	None required.	Available at the INEEL and commercially	Available at the INEEL and commercially.
<u>Cost (present worth)</u>			
(See Table 21-2 and Appendix I.)	\$3.3 million	\$3.5 million	\$8.1 million

**Table 22-14.** Detailed analysis summary for the UXO Areas.

Criteria	Alternative 1 No Action	Alternative 2 Limited Action	Alternative 3 Detection, Removal, and Institutional Controls
<u><i>Overall protection of human health and the environment</i></u>			
Human health protection	No reduction in risk	Reduces risk by restricting access	Reduces risk by removing detected UXO and restricting access
Environmental protection	Not applicable	Not applicable	Not applicable
<u><i>Compliance with ARARs</i></u>			
<b>Action-specific</b>			
Military Munitions Rule – 40 Code of Federal Regulation 266, Subpart M	Would not meet ARAR	Would meet ARAR	Would meet ARAR
Idaho Fugitive Dust Emissions – IDAPA 58.01.01.650-.651	Not Applicable	Would meet ARAR	Would meet ARAR
Rules and Standards for Hazardous Waste in Idaho– IDAPA 58.01.05.010.006, .008, and .011	Would not meet ARAR	Would meet ARAR	Would meet ARAR
Hazardous Waste Determination – 40 Code of Federal Regulation 262.11	Not applicable	Would meet ARAR	Would meet ARAR
Rules and Standards for Hazardous Waste in Idaho – IDAPA 58.01.05.009	Not applicable	Would meet ARAR	Would meet ARAR
<b>Location-specific</b>			
Native American Graves Protection and Repatriation Act—25 USC 32	Would meet ARAR	Would meet ARAR through surveys and assessments and actions deemed necessary.	Would meet ARAR through surveys and assessments and actions deemed necessary.
National Historic Preservation Act—36 Code of Federal Regulation 800	Would meet ARAR	Would meet ARAR through surveys and assessments and actions deemed necessary.	Would meet ARAR through surveys and assessments and actions deemed necessary.



**Table 22-14.** (continued).

Criteria		Alternative 1 No Action	Alternative 2 Limited Action	Alternative 3 Detection, Removal, and Institutional Controls
<b>TBCs</b>				
Real Property Contaminated with Munitions, Explosives, or Chemical Agents – DoD Standard 6055.9, Chapter 12		Would not meet ARAR	Would meet ARAR	Would meet ARAR
<u>Long-term effectiveness and permanence</u>				
Magnitude of residual risk		No change from existing risk	Risk is controlled only through access restriction.	Risk is reduced through UXO detection and removal, and continued access restrictions.
Adequacy and reliability of controls		No control and, therefore, no reliability	Assumed to be adequate for the period of institutional control.	Assumed to be adequate for the period of institutional control.
<u>Reduction of toxicity, mobility, or volume through treatment</u>				
Treatment process used		Not applicable	Not applicable	Detection and detonation
Amount destroyed or treated		Not applicable	None	Amount of remaining UXO is not known
Reduction of toxicity, mobility, or volume		Not applicable	There will be no reduction of toxicity, mobility or volume.	Amount of UXO to be recovered and destroyed is not known.
Irreversible treatment		Not applicable	Not applicable	Not reversible, and detonation of UXO will permanently eliminate risk..
Type and quantity of residuals remaining after treatment		Not applicable	Not applicable	Inert metal – quantity is not known at this time.
Statutory preference for treatment		Not applicable	Not applicable	Meets preference
<u>Short-term effectiveness</u>				
Community protection		Increase of potential risks to the public	Reduces potential risks to the public	Reduces potential risks to the public
Worker protection		Increase of risks to workers	Workers protected by engineering and administrative controls.	Workers protected by engineering and administrative controls.
Environmental impacts		No change from existing conditions	No change from existing conditions	Limited to disturbances from excavation of UXO
Time until action is complete		Not applicable	Approximately 12 months	Approximately 36 to 48 months

**Table 22-14. (continued).**

Criteria	Alternative 1 No Action	Alternative 2 Limited Action	Alternative 3 Detection, Removal, and Institutional Controls
<u>Implementability</u>			
Ability to construct and operate	No construction or operation	Easy, involves installation of fencing and signs	Moderately difficult; involves use of specialized detection technology over very large areas. Removal and detonation of detected UXO can be hazardous.
Ease of implementing additional action if necessary	May require repeat of feasibility study and record of decision process	Moderately difficult, would involve detection and removal of UXO using specialized technology. Removal and detonation of UXO can be hazardous.	Moderately difficult, would involve detection and removal of UXO using specialized technology. Removal and detonation of UXO can be hazardous.
Ability to monitor effectiveness	Monitoring of conditions is readily implemented	Monitoring of conditions is readily implemented	Moderate since UXO detection methods are rarely 100% effective.
Ability to obtain approvals and coordinate with regulatory agencies	No approvals required	No difficulties identified	No difficulties identified.
Availability of services and capacity	None required	All necessary services are available on-Site	UXO detection capability is available commercially. UXO removal and detonation services are available on-Site as well as commercially.
Availability of equipment, specialists, and materials	None required	Equipment, specialists and materials for implementing site access restrictions and deed restrictions are available on-Site.	Equipment, specialists, and materials for UXO detection are available commercially. Equipment, specialists and materials for UXO removal and detonation are available on-Site as well as commercially.
Availability of technology	None required	None required	Available commercially
<u>Cost (present worth)</u>			
(See Table 21-3 and Appendix I.)	\$ 2.4 million	\$ 5.2 million	\$ 16.5 million

**Table 22-15.** Comparative ranking of remedial alternatives relative to the CERCLA evaluation criteria.

Evaluation criteria	Ranked Alternatives for Contaminated Soil Sites <sup>a</sup>	Ranked Alternatives for the STF-02 Gun Range	Ranked Alternatives for the UXO Areas
Overall protection of human health and the environment	(3a, 3b, 4a, 4b), 1	(3a, 3b), 1	(2, 3), 1
Compliance with ARARs	(3a, 3b, 4a, 4b), 1	(3a, 3b), 1	(2,3), 1
Long-term effectiveness and permanence	(3a, 3b, 4a, 4b), 1	(3a, 3b), 1	3, 2, 1
Reduction of toxicity, mobility or volume through treatment	4a, 4b, (3a, 3b), 1	(3a, 3b), 1	3, (1,2)
Short-term effectiveness	1, 3a, (3b, 4a), 4b	1, 3a, 3b	2, 3, 1
Implementability	1, (3a, 3b, 4a), 4b	1, 3a, 3b	1, 2, 3
Cost	1, 3a, 3b, 4b, 4a	1, 3a, 3b	1, 2, 3

Note: numbers in parentheses are rated equal and numbers to the left rank higher than numbers to the right.

a. Alternatives for TNT/RDX contaminated soil sites:

Alternative 1—No Action

Alternative 3a—Removal, Treatment of TNT/RDX Fragments, and Disposal of Soil on the INEEL

Alternative 3b—Removal, Treatment of TNT/RDX Fragments, and Disposal of Soil off the INEEL

Alternative 4a—Removal, Incineration, and Disposal off the INEEL

Alternative 4b—Removal, Composting, and Disposition on the INEEL

b. Alternatives for the SFT-02 Gun Range:

Alternative 1—No Action

Alternative 3a—Removal, Ex Stabilization, and Disposal

Alternative 3b—Removal, Soil Washing, and Disposition on the INEEL.

c. Alternatives for the UXO Areas:

Alternative 1—No Action

Alternative 2—Limited Action

Alternative 3—UXO Detection, Removal, and Institutional Controls

maintained to restrict access. Depending on the results of the UXO survey, periodic UXO surveys and removal activities may be conducted in the future. Alternative 2 would be protective by limiting access and exposure to UXO.

### **22.3.2 Compliance with ARARs**

Comparison of compliance with ARARs is summarized in Table 22-12 for TNT/RDX-contaminated soils sites, Table 22-13 for the STF-02 Gun Range, and Table 22-14 for the UXO areas. The comparative ranking of alternatives relative to compliance with ARARs is shown in Table 22-15. The ARARs for Alternative 1 (no action) would not be met for the TNT/RDX-contaminated soil sites, STF-02 Gun Range, or the UXO areas. Alternatives 3a, 3b, 4a, and 4b for the TNT/RDX-contaminated soil sites would all meet ARARs and are ranked equally. Alternatives 3a and 3b would both meet all ARARs for STF-02 Gun Range. Alternatives 2 and 3 for the UXO areas would meet ARARs.

### **22.3.3 Long-Term Effectiveness and Permanence**

Alternative 1 (no action) would provide the least long-term effectiveness and permanence for the TNT/RDX-contaminated soil sites, STF-02 Gun Range, and UXO areas. Alternatives 4a and 4b for the TNT/RDX-contaminated soil sites (excavation, off-Site incineration and disposal; and excavation, composting, and on-Site disposition) would provide the highest degree of long-term effectiveness and permanence because TNT/RDX contamination would be removed and disposed in a secure landfill or destroyed through treatment. However, because undetected contamination could remain in place, institutional controls will be required and 5-year reviews would continue during the institutional control period.

For the STF-02 Gun Range, Alternative 3a (excavation, stabilization, and disposal) would provide the highest degree of long-term effectiveness and permanence, because the waste would be removed from the site, treated, and disposed in a secure landfill. Alternative 3b (excavation, soil washing, and disposition at the site) is somewhat less protective. Some lead contamination (below risk-based levels) could be returned to the site because soil washing is not expected to be 100% effective in removing lead contamination from the soil.

For the UXO areas, Alternative 3 (UXO detection, removal, and institutional controls) would provide the highest degree of long-term effectiveness and permanence. The UXO survey would cover all UXO areas, and any detected UXO would be removed and detonated. Alternative 2 (institutional controls) would be somewhat less effective and permanent because direct exposure to UXO would still be a risk at the sites; risk reduction would rely entirely on access restrictions.

### **22.3.4 Reduction of Toxicity, Mobility, or Volume Through Treatment**

For the TNT/RDX-contaminated soil sites only Alternative 4a would achieve 100% reduction of toxicity and mobility and also would reduce the volume of TNT/RDX contaminated soil. It was rated highest among the alternatives for TNT/RDX contaminated soil relative to this criterion. Alternative 4b achieved a high reduction of toxicity and mobility, but the soil volume would increase significantly due to the high volume of additives necessary for the composting process. Alternatives 3a and 3b do not involve treatment and were rated lower than alternatives that had a treatment component.

For STF-02 Gun Range, for all considered alternatives with the exception of Alternative 1 (no action), the waste would be treated to reduce toxicity and mobility. The volume would increase from stabilization (Alternative 3a), and a small volume decrease can be expected from soil washing.

For UXO areas only Alternative 3 would involve action to remove and detonate UXO. Alternatives 1 and 2 both leave all potential UXO in place and are considered equivalent relative to this criterion.

### **22.3.5 Short-Term Effectiveness**

For the TNT/RDX-contaminated soil sites and STF-02 Gun Range, Alternative 1 (no action) would be the most effective in the short-term because no actions resulting in additional worker exposure would occur. No off-Site exposures would occur because none of the sites are located near inhabited areas and no public roads are in the vicinity. No additional environmental impacts would result from this alternative other than the conditions already existing. Contaminant migration from surface soils via wind and water infiltration is of concern. As noted previously, the BRA identifies risks that would not be addressed by the no action alternative. Furthermore, an assumption incorporated into this evaluation was that sites are immediately accessible to the public. Therefore, the no action alternative would not satisfy RAOs.

For the UXO areas, the no action alternative is rated lowest in short-term effectiveness. This is because it is assumed the public would have immediate access to the sites and could encounter UXO. Such encounters could result in serious physical injury due to fire or explosion from unintentional detonation. Without access restrictions and administrative controls, on-Site workers could also encounter UXO and suffer physical injury from inadvertent detonation. Alternative 2 is considered the most effective in the short-term because workers would not be exposed to the hazards associated with removal and detonation of UXO.

Alternatives 3b and 4a for the TNT/RDX-contaminated soil sites are considered equally effective for short-term protection. Both alternatives involve about the same degree of soil excavation and transport. Alternative 3a would be considered slightly more effective because of some reduced potential risk to the public since contaminated soils would not be transported off-Site. Alternative 4b would be less effective than Alternatives 3a, 3b, and 4a in the short-term, because additional worker exposure would result from the increased handling of TNT/RDX-contaminated soil during the composting process.

For STF-02 Gun Range in the short term, Alternatives 3b is considered less effective. The soil washing process involves use of acid, which poses safety concerns for workers conducting the treatment. The soil washing process also takes much longer to perform than stabilization and creates a significant volume of hazardous secondary waste, which also increases risk to on-Site workers.

### **22.3.6 Implementability**

Each of the alternatives retained for detailed analysis is technically implementable. Alternative 1 (no action) would be the most implementable for the TNT/RDX soil sites, STF-02 Gun Range, and UXO areas, because it would require no change in existing site conditions.

For the TNT/RDX-contaminated soil sites, Alternatives 3a, 3b, and 4a are equally implementable. All use conventional excavation equipment and rely on available disposal and treatment facilities. Alternative 4b is considered less implementable, because a temporary building would have to be constructed and specialized equipment obtained for composting the soil.

Alternative 3a for the STF-02 Gun Range is considered more implementable than Alternative 3b. The stabilization process for soil (Alternative 3a) will use conventional and readily available equipment and technology known to be effective. The effectiveness of soil washing (Alternative 3b) is not as well

demonstrated. Treatability studies would be required to determine the effectiveness on the soils at the STF-02 Gun Range, and there is some risk that the technology would not meet PRGs.

Alternative 2 is considered most implementable for the UXO areas after Alternative 1. Many of the access restrictions are currently in place, and other administrative controls are easy to implement and maintain. Alternative 3 is considered less implementable because specialized UXO detection capability is required to survey the vast land areas included in the UXO areas, and no detection method is completely effective at differentiating between UXO and inert munitions. Alternative 3 also involves excavation and detonation of potential UXO, which poses hazards to on-Site workers.

### **22.3.7 Cost**

The comparative ranking of the alternatives relative to present cost is presented in Table 22-15. The level of detail used to develop the cost estimates presented is considered appropriate for comparing alternatives. Separate cost line items are developed for the primary components of each remedial action alternative, such as monitoring, excavation, treatment, disposal, and reporting requirements (e.g., the RD/RA scope of work and work plans, safety documentation, and progress reports).

The level of detail presented in the cost estimates is consistent with the level of detail provided in the descriptions of each alternative. Additional details in the cost estimates are not considered appropriate without supporting detailed designs for each alternative. The uncertainty associated with each cost estimate increases with the complexity of the alternative.

## **22.4 References**

- 25 USC 32, *United States Code*, Title 25, "Indians," Chapter 32, "Native American Graves Protection and Repatriation Act."
- 36 CFR 800, *Code of Federal Regulations*, Title 36, "Parks, Forests, and Public Property," Part 800, "Protection of Historic and Cultural Properties."
- 40 CFR 261.2, *Code of Federal Regulations*, Title 40, "Protection of Environment," Part 261, "Identification and Listing of Hazardous Waste," Subpart .2, "Definition of Solid Waste."
- 40 CFR 261.24, *Code of Federal Regulations*, Title 40, "Protection of Environment," Part 261, "Identification and Listing of Hazardous Waste," Subpart .24, "Toxicity Characteristic."
- 40 CFR 261.6, *Code of Federal Regulations*, Title 40, "Protection of Environment," Part 261, "Identification and Listing of Hazardous Waste," Subpart .6, "Requirements for Recyclable Materials."
- 40 CFR 262, *Code of Federal Regulations*, Title 40, "Protection of Environment," Part 262, "Standards Applicable to Generators of Hazardous Waste," Subpart B, "The Manifest."
- 40 CFR 262.11, *Code of Federal Regulations*, Title 40, "Protection of Environment," Part 262, "Standards Applicable to Generators of Hazardous Waste," Subpart .11, "Hazardous Waste Determination."
- 40 CFR 264, *Code of Federal Regulations*, Title 40, "Protection of Environment," Part 264, "Standards for Owners and Operators of Hazardous Waste Treatment, Storage, and Disposal Facilities."

40 CFR 264, *Code of Federal Regulations*, Title 40, "Protection of Environment," Part 264, "Standards for Owners and Operators of Hazardous Waste Treatment, Storage, and Disposal Facilities," Subpart I, "Use and Management of Containers."

40 CFR 264, *Code of Federal Regulations*, Title 40, "Protection of Environment," Part 264, "Standards for Owners and Operators of Hazardous Waste Treatment, Storage, and Disposal Facilities," Subpart X, "Miscellaneous Units."

40 CFR 264.310, *Code of Federal Regulations*, Title 40, "Protection of Environment," Part 264, "Standards for Owners and Operators of Hazardous Waste Treatment, Storage, and Disposal Facilities," Subpart .310, "Closure and Post-Closure Care."

40 CFR 266 Subpart M, *Code of Federal Regulations*, Title 40, "Protection of Environment," Part 266, "Military Munitions."

40 CFR 268, *Code of Federal Regulations*, Title 40, "Protection of Environment," Part 268, "Land Disposal Restriction."

40 CFR 300.430(e)(9)(iii), *Code of Federal Regulations*, Title 40, "Protection of Environment," Part 300, "National Oil and Hazardous Substances Pollution Contingency Plan."

40 CFR 63.543 - .545, *Code of Federal Regulations*, Title 40, "Protection of Environment," Part 63.543-.545, "National Emission Standards for Hazardous Air Pollutants from Secondary Lead Smelting."

DOD, August 1997, "DOD Ammunition and Explosives Safety Standards," DOD 6055.9-STD, Chapter 12, "Real Property Contaminated with Ammunition, Explosives, or Chemical Agents."

EPA, October 1988, *Guidance for Conducting Remedial Investigations and Feasibility Studies Under CERCLA*, EPA/540/G-89/004, Interim Final, Office of Emergency and Remedial Response, U.S. Environmental Protection Agency.

IDAPA 16.01.01.161, "Toxic Substances," Idaho Administrative Procedures Act.

IDAPA 16.01.01.210, "Preconstruction Compliance with Toxic Standards," Idaho Administrative Procedures Act.

IDAPA 16.01.01.500.2, "Requirements for Portable Equipment," Idaho Administrative Procedures Act.

IDAPA 16.01.01.581, "Prevention of Significant Deterioration," Idaho Administrative Procedures Act.

IDAPA 16.01.01.585, and .586, "Toxic Air Pollutants Rules for Control of Air Pollution in Idaho," Idaho Administrative Procedures Act.

IDAPA 16.01.01.650 and .651, "Fugitive Dust Rules for Control of Air Pollution in Idaho," Idaho Administrative Procedures Act.

IDAPA 16.01.05.005 through .011, "Hazardous Waste Management," Idaho Administrative Procedures Act.

IDAPA 16.01.11.200, "Groundwater Quality Standards," Idaho Administrative Procedures Act.

U.S. Department of Energy Order 430.1, January 1998, "Life Cycle Asset of Project and Fixed Asset Management Group."